

Claims

What is claimed is:

1. An air induction arrangement for an internal combustion engine, comprising;

an inlet manifold having a first cylinder port and at least a second cylinder port;

a feed passage having an opening within said inlet manifold, said opening having a periphery;

wherein a first portion of said periphery is distal to the first of said cylinder ports, a second portion of said periphery is proximal to the first of said cylinder ports, and said first portion protrudes further into said inlet manifold than said second portion.

2. An air induction arrangement according to claim 1, wherein said feed passage is a tubular member having an end portion with a longitudinal axis and an end surface lying in a plane transverse but not perpendicular to said longitudinal axis of said end portion.

3. An air induction arrangement according to claim 1, wherein the end of the feed passage comprises a tubular member cut at an angle across the longitudinal axis.

4. An air induction arrangement according to claim 1, wherein said periphery has a substantially elliptical shape.
5. An air induction arrangement according to claim 1, wherein said feed passage comprises an elbow positioned at least partially within said manifold.
6. An air induction arrangement according to claim 5, wherein said elbow extends less than 90 degrees.
7. An air induction arrangement according to claim 1, wherein said feed passage has a flange for connecting said feed passage to said inlet manifold.
8. An air induction arrangement for an internal combustion engine, comprising:
 - an inlet manifold having a plurality of cylinder ports;
 - a feed passage having an opening within said inlet manifold, said opening being formed such as to hinder air departing from said opening from travelling away from said cylinder ports.
9. An air induction arrangement according to claim 8, wherein said feed passage is a tubular member having an end portion with a longitudinal axis and an end surface lying in a plane transverse but not perpendicular to said longitudinal axis of said end portion.

10. An air induction arrangement according to claim 8, wherein the end of the feed passage comprises a tubular member cut at an angle across the longitudinal axis.

11. An air induction arrangement according to claim 8, wherein said feed passage comprises an elbow positioned at least partially within said manifold.

12. An air induction arrangement according to claim 11, wherein said elbow extends less than 90 degrees.

13. An air induction arrangement according to claim 8, wherein said feed passage has a flange for connecting said feed passage to said inlet manifold.

14. An air induction arrangement for an internal combustion engine, comprising:

an inlet manifold having a plurality of cylinder ports;

a feed passage having an end within said inlet manifold, said end including means for hindering air departing from said feed passage from travelling away from said cylinder ports.

15. An air induction arrangement according to claim 14, wherein said feed passage is a tubular member having an end portion with a

longitudinal axis and an end surface lying in a plane transverse but not perpendicular to said longitudinal axis of said end portion.

16. An air induction arrangement according to claim 14, wherein the end of the feed passage comprises a tubular member cut at an angle across the longitudinal axis.

17. An air induction arrangement according to claim 14, wherein said feed passage comprises an elbow positioned at least partially within said manifold.

18. A method of operating an internal combustion engine, comprising:

supplying air to a combustion site;
supplying fuel to a combustion site;
combusting said fuel and air; and
reducing particle emissions from said combustion step by supplying air to the combustion site via an air induction arrangement according to claim 1.

19. A method of operating an internal combustion engine, comprising:

supplying air to a combustion site;
supplying fuel to a combustion site;
combusting said fuel and air; and
reducing particle emissions from said combustion step by supplying air to the combustion site via an air induction arrangement according to claim 8.

20. A method of operating an internal combustion engine,
comprising:

supplying air to a combustion site;

supplying fuel to a combustion site;

combusting said fuel and air; and

reducing particle emissions from said combustion step by

supplying air to the combustion site via an air induction arrangement according to
claim 14.